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## EUROPEAN PATENT APPLICATION

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- Stabilization of somatotropins by modification of cysteine residues utilizing site directed mutagenesis or chemical derivatization.
- The present invention relates to novel modified or derivatized recombinant animal somatotropins. This invention also provides methods for stabilizing recombinant animal somatotropins by modification or deletion of the Cysteine residues utilizing site directed mutagenesis to replace from one to four of the cysteine amino acid residues of said somatotropins with one or more different amino acid residues or by derivatization of (1) both cysteine amino acid residues in the small loop of said somatotropin, both cysteine amino acid residues in the large loop or the four cysteine amino acid residues in both loops of said somatotropin.

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## EUROPEAN SEARCH REPORT

EP 89 11 3852

DOCUMENTS CONSIDERED TO BE RELEVANT				
Category		rith indication, where appropriate, levant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. CI.5)
Υ	EP-A-0 192 811 (CETUS *Entire document *	CORP.)	1-35	C 07 K 13 00 C 12 N 15 18 C 07 K 3 08
Χ			1,2,28.34, 35	A 61 K 37.36 C 12 P 21 02
Y	TOKUNAGA et al.: "Synth	53, 1985, pages 445-449; T. esis and expression of a human opin) gene mutated to change	1-35	
Y	Chemical Society; T.F. HC	1986, pages 6907-6917, American DLZMAN et al.: "Reoxidation of rmone from a stable secondary	1-35	
Υ	BIOLOGICAL ABSTRACTS, vol. 85, no. 9, 1988, abstract no. 88990, Philadelphia, PA, US; J.J. CARIDAD et al.: "Selective reduction of the disulfide bonds of ovine placental lactoges", & INT. J. PEPT. PROTEIN RES. 31(1): 71-76. 1988			
				TECHNICAL FIELDS SEARCHED (Int. CI.5)
E	WO-A-9 002 758 (PITMA Entire document —	N-MOORE INC.)	1,4-27, 31,34-35	C 07 K C 12 N C 12 P A 61 K
	The present search report ha	s been drawn up for all claims		
	Place of search	Date of completion of search	•	Examiner
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## CATEGORY OF CITED DOCUMENTS

- X: particularly relevant if taken alone
- Y: particularly relevant if combined with another document of the same catagory
- A: technological background
  O non written disclosure
  P: intermediate document

- T theory or principle underlying the invention

- E: earlier patent document, but published on, or after the filing date
- D: document cited in the application
- L: document cited for other reasons
- &: member of the same patent family, corresponding